FONTERRA IS COMMUNITY ONLINE PROJECT

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BTECH 451 – END OF YEAR REPORT ID – 1194572 UPI – sjoh140

1.	INTRODUCTION	4
2.	COMPANY	4
3.	PROJECT OVERVIEW	4
4.	CUSTOMER VOICE	5
	4. 1 REQUIREMENTS TO MEET CUSTOMER VOICE	
	4.2 PROPOSAL	7
5.	,	
	5.1 BNZ	8
	5.2 VODAFONE	
	5.3 TELECOM	9
	5.4 DELL	
	5.5 CONCLUSION	11
6.		
	6.1 WHAT IS SOCIAL COLLABORATION?	
	6.2 HOW WOULD THIS IMPROVE IS CUSTOMER EXPERIENCE?	
	6.3 BENEFITS TO IS OF COMMUNITY HELP TOOL	
	6.4 WHY ADOPT SOCIAL NETWORKING FEATURES?	
	6.5 PRESENT CHALLENGES IN FONTERRA THAT IS COMMUNITY ONLINE HOPI	
	SOLVE	14
7.	YAMMER IN FONTERRA	15
8.	COLLABORATION MARKET	16
	8.1 ANALYST VIEW OF SOCIAL MARKET	16
	8.2 VENDOR OVERVIEW	17
	8.3 PURE PLAY SOCIAL VENDORS	17
	8.3.1 NewsGator Social Sites for SharePoint 2010	18
	8.3.2 Yammer	20
	8.3.3 SocialText	22
	8.3.4 Telligent Enterprise	24
	8.3.5 SalesForce.com Chatter	26
9.	RECOMMENDATION	27
10	. IS COMMUNITY ONLINE	28
	10.1 WHY SERVICENOW?	28
	10.2 SERVICENOW FEATURES	28
	10.3 DEVELOPMENT	
	10.3.1 IS COMMUNITY ONLINE INTERFACE	31

	10.3.2 IMPLEMENTATION	39
11	FUTURE WORK AND POSSIBLE IMPROVEMENTS	42
11	1.2 ACHIEVEMENTS	44
12.	CONCLUSION	46
13.	ACKNOWLEDGEMENTS	46

1. INTRODUCTION

A social enterprise tries to find the careful usage and operation of social technologies such as Enterprise social software to reinforce company culture, improve current infrastructure, allow interactive communication, improve engagement, allow collaboration, manage knowledge, and foster innovation within the workplace — all vital factors that allow employees to learn, strategize and do their work.

The overall goal of this project is to present and put into operation a IS Community Online Help tool within Fonterra to help resolve IS related needs and queries. This project can be broken up into three sections – researching, prototyping and set up of the online community and following report outlines the steps taken to complete the first section. The research aspect involves evaluating the benefits that social networking and collaboration brings to Fonterra and how an online IT Help Tool can be delivered in conjunction to this. Enterprise Social Software that is able to provide a solution to their social collaboration needs is evaluated and details of the proposals made are presented in the following report. The decisions made thereafter and the application developed has been presented along with future work that needs to be completed and the issues faced during this project.

2. COMPANY

For the BTech 451 Project, the company I will be working with is Fonterra. Fonterra is a New Zealand dairy co-operative which is owned by nearly 11, 000 New Zealand farmers who provide over 14 billion liters of milk per year [2]. They are the sixth largest dairy company in the world and are also accountable for roughly 30% of the global dairy exports [1].

The IS Team at Fonterra delivers an IS platform and foresees requirements of the business that support Fonterra's dedication to be the biggest global dairy exporter and to achieve their vision to be the natural source of dairy nutrition for everybody, everywhere, everyday.

3. PROJECT OVERVIEW

The aim of my project is to introduce and operationalize an online IT help tool to Fonterra in alignment with the Fonterra enterprise social networking strategy. This includes researching, prototyping and "setting up" a community help for IS to be part of the IS Help Online Intranet presence.

The reason or business objectives for the project are that Fonterra IS do not have a mechanism for our global customers to collaborate and get guidance on IS needs and queries. For example customers are unable to quickly resolve basic requests by using the knowledge of their global community and/or specialist IS knowledge and

expertise. There is also currently no way of leveraging community knowledge in real time or otherwise.

The expected outcomes are that there needs to be further development of existing strategy, framework and operational model that will deliver reduction in certain type of calls to the helpdesk, less complaints received regarding finding answers to needs and create opportunities to collect data for the future. Once the tool is set up, and the volume of new and repeat users (followers) increase a clear case documented and provided for implementation strategy plan and supported by results of research.

4. CUSTOMER VOICE

A quick study was then conducted with a few employees both within and outside of IS about the related current problems in Fonterra and how this could be resolved and the following is the feedback received: -

Comments

- "Share information so users don't have the same problem several times"
- "Hard to find useful information"
- "Good to be able to discuss IS issues with a person-on-the-ground"
- "Takes too long to get simple answers"

Examples of the questions that they would ask on a platform such as IS Community Help Online:-

- I need to build a SharePoint workgroup, has anyone got a template they can share?
- I have an excel spreadsheet and my macros have stopped working, can anyone help me?
- I want to use Outlook tasks but am not sure how, can anyone help me?
- How do I print an STO from SAP?
- How do I delete quality units that have been manufactured incorrectly?
- How do I print bin labels?
- How can you manage your own DL groups through Activate?
- Does anybody know where the Security Policy is held? I can't find it

4. 1 REQUIREMENTS TO MEET CUSTOMER VOICE

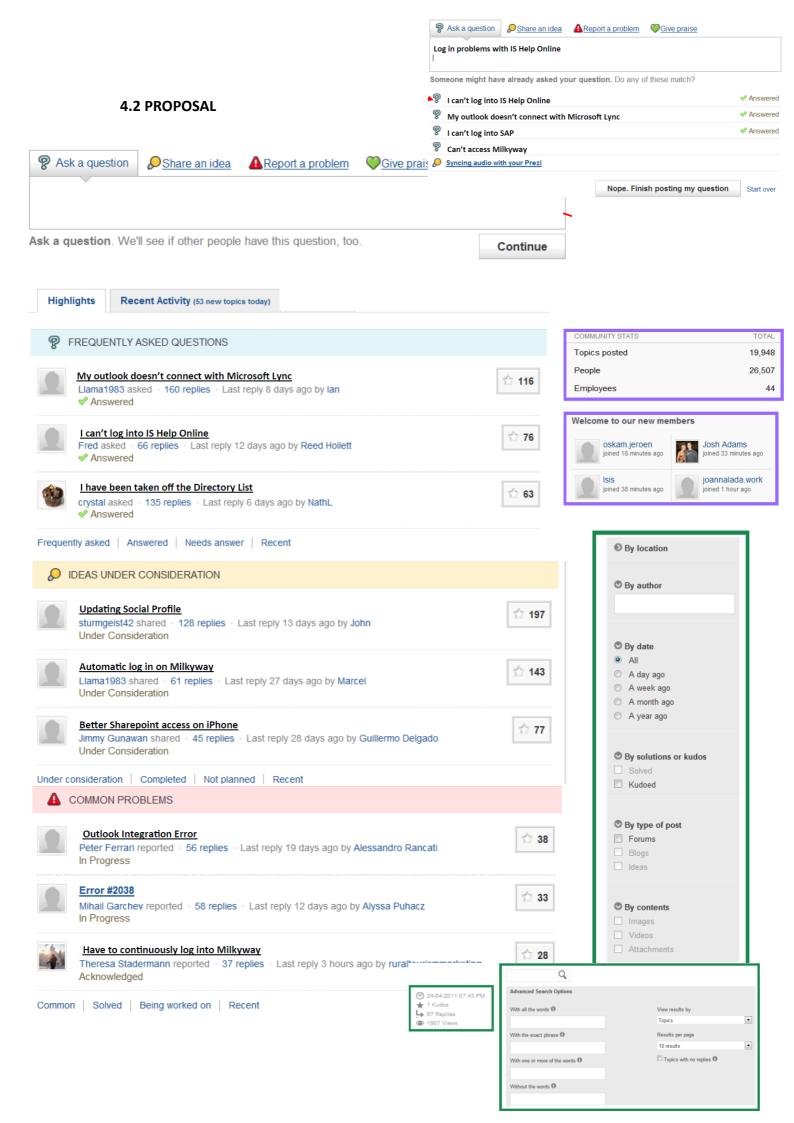
This is a table that is put together so that all the requirements that need to be included for the Online Help Tool can be analyzed.

Voice of the Customer	User Requirements	Solution Requirements	Priority
"Share information so	User Interface	- Simple, logical layout - clean	- must have - must have

users don't have the same		- <5 click tax	- good to have
problem several times"	User Profile	view your own questionsnotification when response posted	- good to have - good to have
"Hard to find useful		discussion threadslinked to Milkway* profile	- must have - good to have
information"	Knowledge Base	 Search – posts, IS Help Online, user guides 	- must have
"Good to be able to discuss		 document repository for all IS help docs 	- must have
IS issues with a person-on-the-		- Helpdesk top 20 questions asked	- must have
ground"	Content	- recommendations based on questions asked/ answered	-good to have
"Takes too long to get simple answers"		 you may be able to help answer (notify relevant network user) 	- good to have
		 forward to others "share" (tag others interested) 	- good to have
		 ratings – rate the information given 	- good to have
		rate the responder – earn "badges"	- good to have
	Service Delivery	global reachsystem access 24/7moderator availability(business hours)	- good to have - must have - must have
	Access	desktop iconlink off Milkywaylink off IS Help Online	- must have - must have - must have
	Use tags (metadata)	 applies to user profile, knowledge base and content categproes 	- must have -must have

Once the table above was constructed, a quick mockup of what some of the features the IS Community Online Help tool could have were put together as shown by in the following page. The green boxes outline potential ways that users could specifically search what they are looking for and the purple boxes indicate features that give feedback to the users about the sites.

It was then decided that it would be more appropriate to use a social networking or collaboration tool as the base for the IT help tool so the following mockup was not further developed.



5. LARGE ORGANIZATIONS AND SOCIAL NETWORKING/ COLLABORATION

The research below was then conducted to give an understanding how social media is embraced by various large organizations to enhance their business models and to also allow for more co — operation, collaboration, communication and connection. This research helped give me an idea of how Fonterra might be able to adopt social media to their own advantage. What needs to be kept in mind is that Fonterra is not a consumer centric company and the main interest is to enhance internal collaboration and to drive productivity through this and also in the case of the online help tool, to provide solutions to IS needs and queries.

5.1 BNZ

- uses a social networking strategy both internally and externally.
 Most of the internal is lightweight and most of the BNZ staff are process users.
- bnz***
- BNZ has an RSS feed which gives it's employees updates on anything that could affect the bank, it's staff or it's customers.
 For instance, when the first of the Christchurch earthquakes struck, the RSS feed would constantly update staff on which branches were not operational. Bank robberies will also be reported on the RSS feed as well as things like attempts by hackers to hack into internet banking, credit card compromises etc.
- has it's own Facebook-like intranet where employees have their own profile pictures and can tag their banking capabilities (e.g. investments, wholesale banking, wealth management etc). The purpose of tagging certain words is so that if an employee wants to find the best department/staff member to deal with a customer all they need to do is type one or two words into the search function and then the relevant staff members will appear. Within the facebook-like intranet, employees have the ability to go onto other employee pages and comment, say hello, or read other posts by other employees.

5.2 VODAFONE

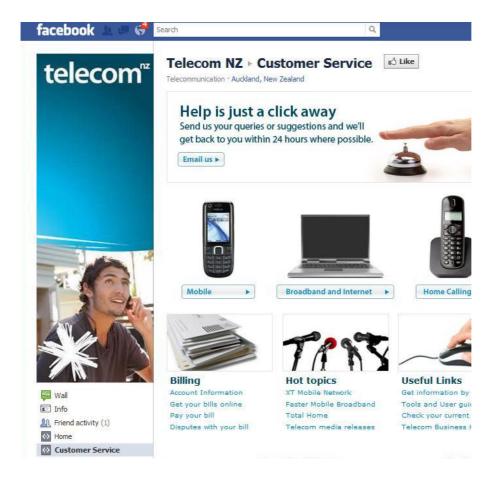
 Vodafone Australia use Facebook to provide an additional layer of customer support



- Users can respond to other user's queries
- Users can search previous posts and documents
- User driven

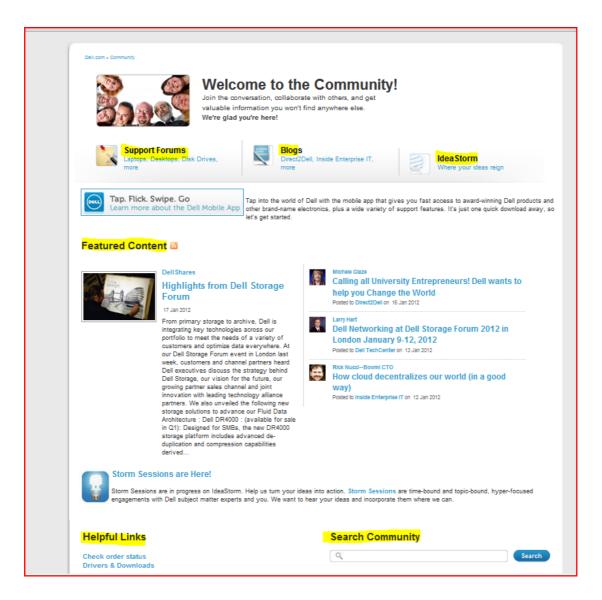


5.3 TELECOM

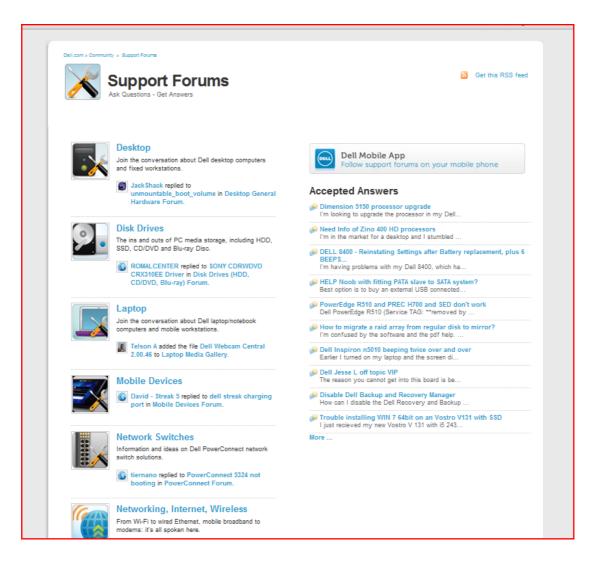


- Telecom use Facebook to interact with their customers
- Customers can search through links of information
- Instead of having a "live wall feed" of customer help the invite customers to send in an email
- Focused more on the customer support process aspect so use tools such as twitter, forum sites such as GeekZone
- Not much of their social collaboration is internally focused but their focus is instead on understanding and responding to the market process.

5.4 DELL



- Dell use social networking technologies to provide a support community to their customers.
- Forums with open discussions, questions and answers by the community.
- Each answer is rated by a Dell staff member and receives a status of "approved" responses.
- Blogs are available to discuss products, topics
- Ideas platform, for users to make suggestions.
- News feature item of interest
- Links
- Search function search the knowledge base



- Forums identified by categories
- Answers are moderated and accepted as 'accepted answers'

5.5 CONCLUSION

The research above indicated how social media is embraced by various large organizations to enhance their business models and to also allow for more cooperation, collaboration, communication and connection.. Tools used by these companies help them reach out to the customer base and offer support where needed. This research helps give an idea of how Fonterra is able to adopt social media to their own advantage.

6. SOCIAL NETWORKING AS A FONTERRA I.S SERVICE

My next step was to look at the benefits Social Networking and Collaboration provide to Fonterra.

The objective of Social Collaboration in Fonterra is to enable improved collaboration of Fonterra employees though the appropriate use of social networking technologies

6.1 WHAT IS SOCIAL COLLABORATION?

Social Networking is a set of online technologies that facilitate the building of dynamic communities, any time, anywhere, around relationship themes: shared interests/activities, common relationships. [3]

One of the keys to the success of Social Networking, is its ability to move communication modes to be more natural, and reduce the "cost" (effort) of communicating, while at the same time allowing the possibility of a richer user experience, closer aligned to the way humans naturally communicate.

By its very nature, social networking is open and interactive, relying on open participation by anyone who wants to join the community.

Enterprise Social Collaboration (Enterprise Social networking) uses many of the same techniques as consumer Social Networking to enable collaboration within the enterprise and with selected external stakeholders. [4]

While Enterprise Social Collaboration tools may bear a resemblance to Consumer Social Media, the value proposition for enterprise social tools quite different.

Social Networking	IS Context/ Benefits
Social networking is a form of collaboration using social network technology	 Reduce Reliance on email Minimize certain types of calls to helpdesk Grow IS knowledge base Encourage IS customers to use knowledge base
Social networking links users together by sharing and building their networks	 Users will receive a faster turn around of resolution to common queries Maximise the potential of our current technical toolset Align IS customer service experience

Micro blogging about events, incidents, topics of interest are common uses

Posting video clips, photos and images to share amongst networks

Computer users are wanting technologies they are familiar with at home to communicate at work

Social networking provides a communication channel which is natural and easy for users

It is open and interactive and relies an open participation in the community

- with wider Fonterra social networking roadmap
- IS customers can grow their networks across systems and application knowledge
- Advanced system user groups will be able to network and share in real time
- Linking "like" users together to build ongoing working relationships
- Real time information to our IS customers about incidents, outages
- Real time information and discussion on common events, issues and areas of interest (application specific, task specific, process)
- Using video clips, photos and images to enhance the learning "how to" experience for users
- Increase user adoption speed of new technologies
- Increase the success of collaborative ways of working by using familiar look and feel
- Will build an expert finders (SMEs) network
- Familiar to most users, easy to use
- Can improve employee/ department/ project productivity

6.2 HOW WOULD THIS IMPROVE IS CUSTOMER EXPERIENCE?

So as the table above states, there are many benefits that Social Networking can bring to Fonterra such as general queries being answered quickly by the community, customers building their networks to improve their systems and application knowledge and advanced system user groups being able to network and share in real time. Social networking is also able to build ongoing working relationships by linking "like" users and communities will be able to share knowledge and learning, educating and empowering each other.

6.3 BENEFITS TO IS OF COMMUNITY HELP TOOL

- Creating online, real time customer support
- Reduce reliance on email
- Minimize certain types of calls to Helpdesk
- Grow IS knowledge base

- Build an expert finder (SMEs) network
- Maximize the potential of our current toolset
- Increase user adoption speed of new technologies
- Improve employee/department/project productivity

6.4 WHY ADOPT SOCIAL NETWORKING FEATURES?

- Building a knowledge base
- Brainstorming and vetting new ideas
- Social networking enables large scale collaboration
- Putting a question out there for looking for a SME to answer it
- Keeping employees better connected
- Social Networking enables the formation of communities of common interest regardless of location or time-zone

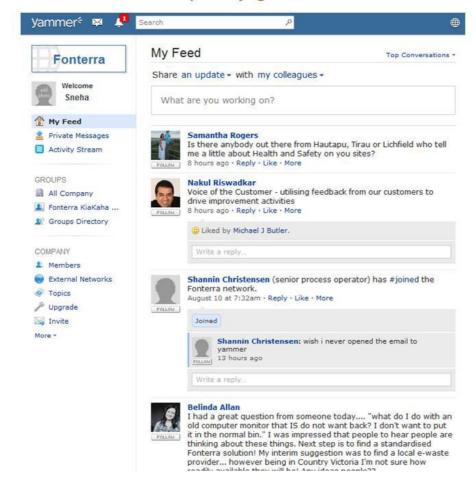
6.5 PRESENT CHALLENGES IN FONTERRA THAT IS COMMUNITY ONLINE HOPES TO SOLVE

The current communication/collaboration mechanisms available to Fonterra staff (email, IM, telephone conversations and meetings) are seen to be inefficient in some cases, particularly in enabling innovation, sharing ideas and problem solving. Some reasons given are that they;

- Aren't suited to free-form conversations between large groups
- There's no record of the dialog or limited access to the information (e.g. sharing info by email which is not then widely available)
- Lack of leveraging known information and insights across the business

7. YAMMER IN FONTERRA

Yammer has become popular within Fonterra as the unofficial micro-blogging application that employees can use to quickly generate content:



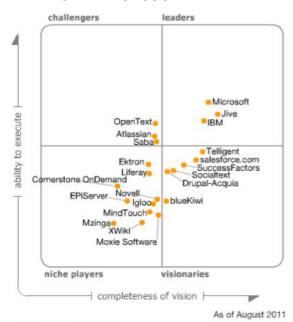
There is currently no governance on the way that Yammer is used within Fonterra and is currently not set up appropriately to enable its potential but it does voice that there is an interest among employees for an enterprise social networking platform.

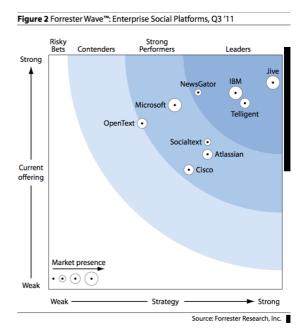
8. COLLABORATION MARKET

The collaboration market is split between suite and pure-play vendors. Collaboration suite vendors offer comprehensive collaboration platforms that include both traditional features (i.e. content management) and social tools. [4]

Pure play Social Vendors provide tools that mainly focus on the social aspects of collaboration for example, activity feeds, microblogging and so forth. [4]

8.1 ANALYST VIEW OF SOCIAL MARKET





Source: Gartner (August 2011)

I used the diagrams above to shortlist some of the key players in the social market [5, 6, 7, 8].

The following are players in the market for

Collaboration Suite Vendors

- Microsoft SharePoint 2010
- OpenText
- Jive
- Lotus

Pure play Social Vendors

- Socialtext
- Newsgator
- Telligent
- SocialCast
- Chatter
- Yammer
- Cisco Pulse

8.2 VENDOR OVERVIEW

Vendor/Product	Highlighted Features	Lowlights
Microsoft SharePoint 2010	 Employee profiles, blogging, wiki and activity feeds. Real-time collaboration capabilities via integration with Microsoft Lync. Content management and library services standard. 	No microblogging. Only mobile support Windows Mobile
NewsGator	Suite of social tools, heavily integrated with Microsoft SharePoint.	On premise onlyMicrosoft SharePoint integrated onlyDoes not support non-staff users
Yammer	 Enterprise microblogging Searchable profiles and activity feeds. Integration with enterprise applications such as SharePoint & AD. 	Does not support non-staff users
Socialtext	 Enterprise microblogging (Socialtext Signals), wikis. Searchable profiles and activity feeds. Integration with enterprise applications such as SharePoint. 	No native mobile applications
Telligent	 Enterprise microblogging, employee profiles, blogging, and activity feeds. Integration with enterprise applications such as SharePoint & AD. 	Perceived as expensive
OpenText Social Workplace	 Profiles, blogs, wikis, feeds, etc. Compelling user interface based on many familiar smartphone metaphors. 	
Jive	 Collaboration suite that often competes with SharePoint. Profiles, blogs, wikis, feeds, etc. 	Perceived as expensive

8.3 PURE PLAY SOCIAL VENDORS

SalesForce CRM.

The evaluation includes 4 vendors considered strong in the social networking market, with a broad product capability and who offer strong integration with SharePoint; Yammer, Telligent, NewsGator and SocialText.

A limitation to this evaluation was the score was just totalled but it would have been better if I scored them based on the priority or importance of each aspect being evaluated. For example the Security, Functionality and Integration aspects are more important than the Mobility aspect and if this was done it would have been a better rating system even though it wouldn't change the final outcome that Newsgator is the leading tool.

Yammer is included in the evaluation due to a strong existing Fonterra mindshare rather than the inherent merits of the product, or market perception.

SalesForce.com's Chatter, was also considered due to close integration with the

Two obvious omissions from consideration are Jive and IBM's Lotus Connections, omitted because they are broad capability platforms, targeted at companies as an alternative to SharePoint rather than as an enhancement to its capabilities.

8.3.1 NewsGator Social Sites for SharePoint 2010

NewsGator is a social platform built on top of the native SharePoint 2010. It's designed specifically to augment SharePoint by filling functionality gaps such as Microblogging, and enhances other SharePoint social features. Social Sites aims to supplement and extends, the SharePoint platform rather than replace it. [8]

NewsGator has deep integration into the SharePoint user interface, and has minimal capability overlap. It improves usability and adds wizards for profiles and expertise discovery, ideation, tagging, video, self-service community subscriptions, and activity streams with filtered views.

Newsgator Social Sites 2010 installs as a service on the SharePoint 2010 servers and becomes a web part that can be activated/configured on a site by site basis by the site administrator.NewsGator was named NewsGator named Microsoft's 2011 US Partner of the Year.

Mobile access for iPhone, iPad, Android and Blackberry is a licensable feature. Access for Blackberry is via the BES infrastructure. Access for iOS and Android devices is over HTTPS via Webseal (or ISA).

Newsgator	Score	Description	Pro	Con
Functionality	4	Full suite of features, including Microblogging, activity streams, profile ideations, desktop clients, and polling		
Architecture	3.5	On premise: Integrates directly into SharePoint		
SharePoint Integration	5	Near seamless SharePoint integration	It's designed specifically to augment SharePoint by filling functionality gap. Embeds directly into sites	Installs directly onto the SharePoint server, which raises concern over capacity & stability

Security	4.5	Directly leverages the SharePoint security and permission models to a site/ community level		
Mobility	4	Mobile support available as an optional module	Support for all major OSs	
Integration	5	Integration with SharePoint, AD, Outlook and Lync presence		
TCO	4	Subscription based user pricing: Volume list pricing for 1-9,999 users: US\$1.46 or \$1.04 for > 10,000	Options available for perpetual licensing rather than subscription	
	30			

8.3.2 Yammer

Yammer offers a social networking and microblogging platform targeted at the Enterprise for internal company communication. The service is SaaS/Cloud based hosted in the US only.

Yammer has been relatively successful at marketing itself with a highly featured freemium model, and has been very popular with many end users who have introduced it into their organisations inviting colleagues and friends to join, bypassing IS involvement. They claim penetration into 80% of Fortune 500 companies, but it's unclear what percentages of those are using the paid version of the product. The premium version of the product operates under a per user subscriber model.

Yammer is primarily a microblog, styled similar to a private version of Facebook. It ensures a degree of security by allowing communication only between members who share the same company's email suffix. Users can read/post to a companywide feed, or establish private invitation only groups.

The freemium version of the product includes all the key functional features; company microblog feeds, groups, private messaging, personal profiles, file, video, and image sharing etc. The premium paid version adds support and SLAs, advanced management, single sign-on, & integration with Active Directory, branding customisation, export of data for e-discovery and integration with SharePoint and other web sites.

Yammer's SaaS product can link to SharePoint and allows Yammer comment feeds to display on any SharePoint page. Users can post messages and files to Yammer from within SharePoint.

Yammer	Score	Description	Pro	Con
Functionality	3.5	Yammer focus primarily on microblogging		
Architecture	3.5	SaaS/ Cloud only		
SharePoint Integration	3.5	Yammer feeds, private messages, and notification tabs		Implementation is quite lightweight, essentially just an embedded HTML frame
Security	3	Requires identity federation technologies to achieve single/ same sign-on	Only users with Fonterra email address can access activity streams	US based SaaS service (sovereignty issues)

Mobility	3.5	Support for all main Oss; iOS, Android, Blackberry, Windows Mobile + SMS Integration	
Integration	3.5	Integration with SharePoint and AD for single sign on	No AD user profile information or Lync Presence info
TCO	1	Subscription based user pricing: List Price US\$5/user/month Annual Subscription US\$600K*	The Yammer licensing model is inflexible. Once we activated AD integration, all Fonterra staff would need to be classified as a user.
	21.5		

 Assumes 10,000 users. Yammer were unwilling to discuss anything but list pricing without a strong stated commitment to their product and their engagement process (signing MSA, security signoff, providing details of the Social Networking Strategy, and NDA). The expectation is that volume would probably be somewhere between US\$1.50-\$2 per user for a volume of 10,000 users

8.3.3 SocialText

SocialText was one of the pioneer into the "social" market and among the first to offer an enterprise-grade wiki and to respond to new social trends like Microblogging, and now has a relatively rich integrated suite of web-based social software applications including microblogging, user profile, directories, groups, personal dashboards using OpenSocial widgets, and shared spread sheet, wiki, and weblog collaboration tools. They target the mid-market with aggressive pricing and a business-focused professional services offering.

SocialText is available as either a SaaS/Cloud service or as an on premise virtual appliance. If used in Fonterra, the virtual appliance is likely best fit.

SocialText	Score	Description	Pro	Con
Functionality	3.5			User interface is slightly "cluttered"
Architecture	4.5	On premise: Integrates directly into SharePoint	The on premise appliance makes the solution independent of other sites (non-disruptive upgrades)	
SharePoint Integration	4			
Security	4	Onsite deployment, AD integration for single sign on		
Mobility	3.5	Native support for iOS just released with support for Android and Blackberry following in December. HTML5 support for all other devices		
Integration	4.5	Integration with SharePoint AD		

		and Lync presence. Can be embedded/ integrated into any web site.		
тсо	5	Volume list pricing for 10,000 users for the onsite virtual appliance: US\$80L PA, US\$15K setup costs including design, install and training	participating can be deactivated so that they do not count against your	
	29			

8.3.4 Telligent Enterprise

Telligent Enterprise is an on premise solution targeted at large organisations. It's full featured, with a broad range of capabilities for document sharing, rich editing, full email integration, user profiles, sophisticated analytics and a recommendation engine.

Telligent maintains a strong relationship with Microsoft and offers deep integration with Lync for real-time collaboration, SharePoint for document management, and Outlook for user-level integration.

Telligent	Score	Description	Pro	Con
Functionality	4.5	Full suite of features, including Microblogging, activity streams, profiles, desktop clients, polling, extensive development capabilities and advanced network analytics	Telligent is effectively a development platform to deliver advanced social networking capability. The out of the box network analytics features particularly strong	
Architecture	4.5	On premise: Integrates directly into SharePoint		
SharePoint Integration	4	Bidirectional Web part integration		
Security	4			
Mobility	2			Mobile support is only via mobile browser, rather than via native applications
Integration	4	Integration with SharePoint AD and Lync		

		presence	
TCO	2	Perpetual licensing, server + per user Licensing*: US\$700K	
		+20% annual maintenance US\$140K	
	25		

^{*}Pricing is list is for required servers and 10,000 users

8.3.5 SalesForce.com Chatter

Chatter is a standalone, pureplay social networking tool, the primary selling point being tight integration with the SalesForce other business applications such as CRM platform. Chatter provides Microblogging, Instant messenger, file sharing, user profiles, idea capture and Workflow approvals. A basic version of Chatter is available free.

Chatter is typically deployed in organisations that have a wide deployment of SalesForce applications. The CRM integration allows business events such as contract updates or customer interactions to appear in the user/group activity streams.

Chatter for SharePoint is available as a free, open-source component, allowing users to view Chatter feeds inside SharePoint and read, comment, & post files and links into the Chatter feed.

Chatter is available as from any web browser, X86 desktop application or as a native application most mobile platforms. Chatter is available only as SaaS/Cloud service.

Chatter	Score	Description	Pro	Con
Functionality	4	Microblogging, Instant messenger, file sharing, user profiles, idea capture and workflow approvals		Many of the features compete in functionality with other strategic products e.g. Chatter has messaging and web-conferencing features already provided by Lync.
Architecture	4.0	SaaS/ Cloud only		
SharePoint Integration	3.5	Loose integration with SharePoint though Chatter for SharePoint component		Integration module only currently in beta. Limited implementation of SharePoint's security hierarchy

Security	3.5	Identity federation provided by SAML 2 authentication	Requires identity federation technologies to achieve single/ same sign-on. US based SaaS service (sovereignty issues)
Mobility	4	Native Support for iPhone, iPad, Android, or Blackberry	
Integration	3.5	Integration with SharePoint AD and most SalesForce applications	
TCO	4		
	26.5		

9. RECOMMENDATION

<u>Pure-Play Social product:</u> It was recommended that NewsGator be deployed in parallel to the SharePoint 2010 upgrade to fill a capability gap within SharePoint 2010. It is also anticipated that using a social networking tool integrated directly into the SharePoint workflow, will encourage wider adoption due to its strong integration with the SharePoint workflow, and capabilities that are a close match to key usecases. Assuming licensing for 10,000 users, the solution would have an operational cost of the solution would likely be US\$125K per year, approximately NZ\$166k (depending on feature options deployed).

<u>Platform recommendation:</u> SharePoint already has wide user acceptance as the default traditional document collaboration platform and the new version, SharePoint 2010, includes a number of robust social features known as "SharePoint Communities" so its recommended that SharePoint 2010 form the foundation to Fonterra's social enablement for E2E.

At the end of Semester 1, the above recommendations were made and the decision from proposal for the SharePoint upgraded was being awaited. It Sharepoint 2010 was approved, so would Newsgator so it was planned that this combination will be used for my online help tool. But if the proposal was declined, Sharepoint 2007 was to be used in conjuction with either Chatter or Yammer. As SharePoint 2007 is

already present in Fonterra, either Chatter or Yammer would need to be deployed in order for the implementation phase of IS Community Online to start.

Once the tool is set up, usability studies and testing need to be conducted until it meets the requirements and satisfaction of the users.

10. IS COMMUNITY ONLINE

The decision was made that SharePoint 2007 would not be upgraded to 2010 but instead will be upgraded to SharePoint 2013 mid next year and due to this Newsgator would not be deployed. Fonterra was still interested in implementing Newsgator over Chatter or Yammer so this aspect of the enterprise networking strategy was put on hold. It was essential for the development of IS Community Online to have a platform available due to the Fonterra security requirements. This halted the project till the end of August when it was decided that ServiceNow would be the platform used for the project.

10.1 WHY SERVICENOW?

The main reason that this tool was chosen was because that it was already approved to be used as the complete IT Help tool throughout Fonterra and to replace the current Fonterra IS Help Online, all their request systems, documentation and help portal. As there seemed to be no immediate plan to release a Pure-Play social product in the near future, the ideal solution was to utilize the social features of ServiceNow and further customize and develop it in order to meet the needs of IS Community Online. As ServiceNow was to be available in the pre-production environment in early September and the time frame to complete the BTech 451 project was drawing close, this seemed to be the best way to proceed.

ServiceNow was being brought in for Fonterra employees to request IT business services, for example reporting service interruption and on the other end, IS support staff would use it to manage service requests, incidents and problems. Developing IS Community online alongside where IS Help online would reside also seemed to be ideal both in terms of management and also access for Fonterra users.

ServiceNow also allowed for more flexibility with how interface can be designed compared to NewsGator or Chatter when the layout cannot be changed dramatically. This also meant that the prototype that I had initially proposed to be a SharePoint plugin could be utilized and further developed.

Before this decision was made, some research was conducted to see if ServiceNow would be a suitable platform.

10.2 SERVICENOW FEATURES

The deployment model for ServiceNow is software as a service (SaaS). So the first aspect of my research looked at the advantages that SaaS provides. [9]

Quick Deployment

- An SaaS solution is easier to roll out and offering training is also much quicker which means that there is speedy deployment.
- ServiceNow being an SaaS solution also means that it would be unproblematic for the vendor to regularly introduce new functionality centered around the requests and requirements of Fonterra. Fonterra would also be able to get hold of new features minus the upgrade cycle.

Cost

- There is no capital equipment that needs to be purchased, installed, tested and no backups to maintain which means it is much less expensive that non SaaS solutions.
- By implementing an SaaS solution such as ServiceNow, the cost is based on the number of users using the service and has a subscriptions based pay-as-you-go pricing model. There is also a reduced risk of failed deployment with SaaS solutions.

Time

 An SaaS solution also lets internal employees concentrate on the strategic side of things

The following are some of the features provided by ServiceNow [10]:-

- Asset, Change, Contract Management
- Billing and Invoicing
- Customer Survey
- Incident, Problem, or Request Management
- ITIL Compliant This aspect is very important as Fonterra IS closely follows ITIL
- Knowledge Base/FAQ
- Remote Control Access
- Reporting
- Self Service Portal
- Forums
- Help Desk
- Social IT The Live feature that ServiceNow provides uses a Twitter-like concept which allows people and things like events, business services and configuration items to collaborate and connect. Objects within Service-now live can be shared, searched, tagged, grouped, subscribed, liked and linked. This feature can be utilized in IS Community Online to allow users to ask questions, report problems and join communities. This feature also give IT

support staff the capability to track activity and analyze trending issues and topics – potentially enabling them to make much more rapid decisions where problems arise.

Evaluation Criteria	ServiceNow	
Implementation Platform and Capability	SaaS implementation with proven capability – Ease of implementation – ServiceNow provides more flexibility with phase approach	
Ongoing Support	New partnerBased in Australia	
Tool Integration with current	Capable	
Tool Functionality	Exceeds requirement – tool is able to meet both current and future (e.g. social media) requirements	

10.3 DEVELOPMENT

The first step before starting the development of IS Community Online, was to be familiar with ServiceNow. Until I was given access to the Fonterra instance of the ServiceNow platform, I used the demo that they provided to get a feel of the features that could be used and integrated into IS Community Online.

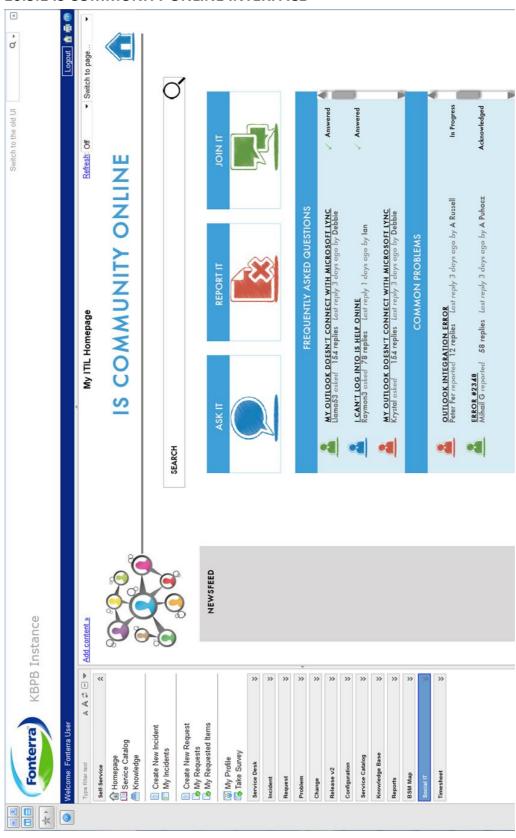
Once given permission as an administrator on the Fonterra instance, I customized the homepage with out of the box content blocks and then to get an understanding of user permissions, I logged in as a Fonterra user and tried to edit, add and customize. This also made me familiar with the existing features and gave me an idea of what needs to be scripted and added to develop IS Community Online.

As an administrator my perception was that ServiceNow was an appealing interface place on top of a database providing UI elements, business rules and more which are all designed in a manner that makes it straightforward to produce and deploy custom applications.

ServiceNow also provides JavaScript API which is used for client side scripting, UI policies and UI scripts. Jelly scripts are also used in some elements. Personally already having HTML/ CSS knowledge made it easier for me to implement IS Community Online.

Though basic implementation was relatively easy, customization was not straightforward. ServiceNow provides courses for administrators and attending these would help understand the potential of this tool.

10.3.1 IS COMMUNITY ONLINE INTERFACE



The above figure shows the initial view of the IS Community Online. A big factor when designing such an interface is that it should be aesthetically pleasing. Especially as this is an enterprise wide system, the users come from various

backgrounds and may not necessarily be tech savvy and therefore it's important to keep the interface as intuitive as possible. The page contains the following:

- Title and Logo
- Global Search
- Sections of IS Community Online
 - Ask IT to ask questions to the community
 - o Report IT to report problems to the community
 - Join IT to engage with the community
- Newsfeed
- Frequently Asked Questions to display the top lodged questions
- Common Problems to display the top lodged problems
- Home Button

The *title* of the site has been presented in blue which is one of the primary Fonterra colors. The *logo* of IS Community Online on the left of the title represents a community which is suitable for a tool such as this where the basis of its success is the engagement of the community.

Three sections of IS Community Online

Fonterra's online help tool called IS Help online has been divided into sections which are called Request IT, Contact IT, Find IT and Search IT. The same theme was followed to allow Fonterra users to get a consistent experience.

IS Help Online



IS Community Online







Newsfeed

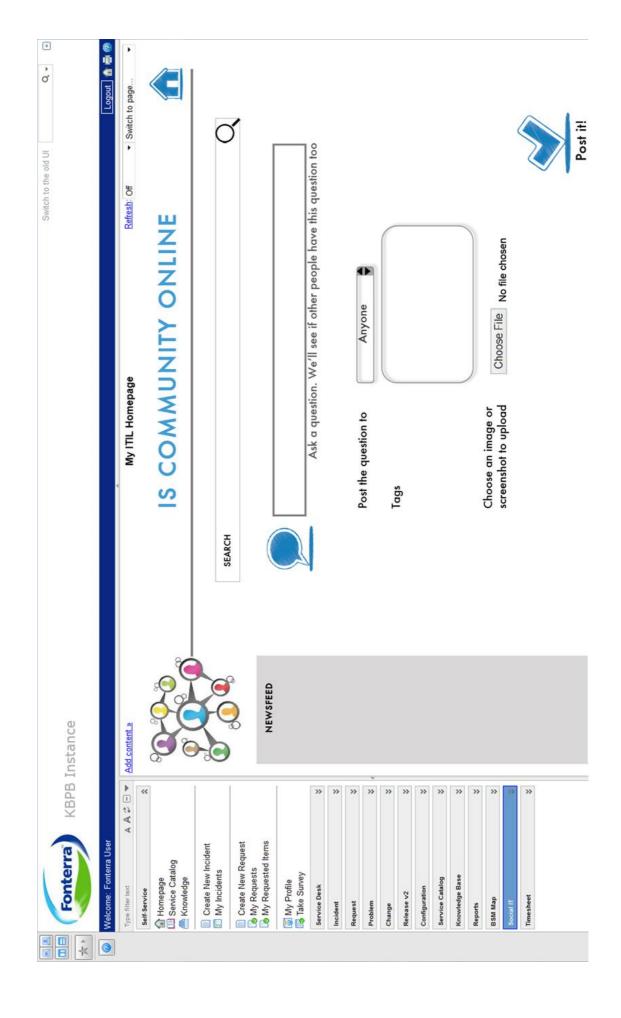
Currently a placeholder for a live activity feed that needs to be implemented in the future to promote user activity.

Frequently Asked Questions

The frequently asked questions section displays a list of the top questions for that particular day or week depending on the volume and priority. Each entry is given a status — Answered or n/a. Attributes of each entry are also displayed under its heading — user that asked the question, number of replies and how long ago the latest reply was and by whom.

Common Problems

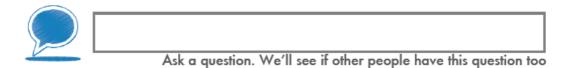
The common problems section displays a list of the top questions for that particular day or week depending on the volume and priority. Each entry is given a status – Acknowledged, In Progress or solved. Attributes of each entry are also displayed under its heading – user that asked the question, number of replies and how long ago the latest reply was and by whom.



The above figure shows the view of the page when the 'Ask IT' button is clicked. The page contains the following:

- Ask a Question bar
- Post Question drop down menu
- Hashtags
- Upload image button
- 'Post it' button

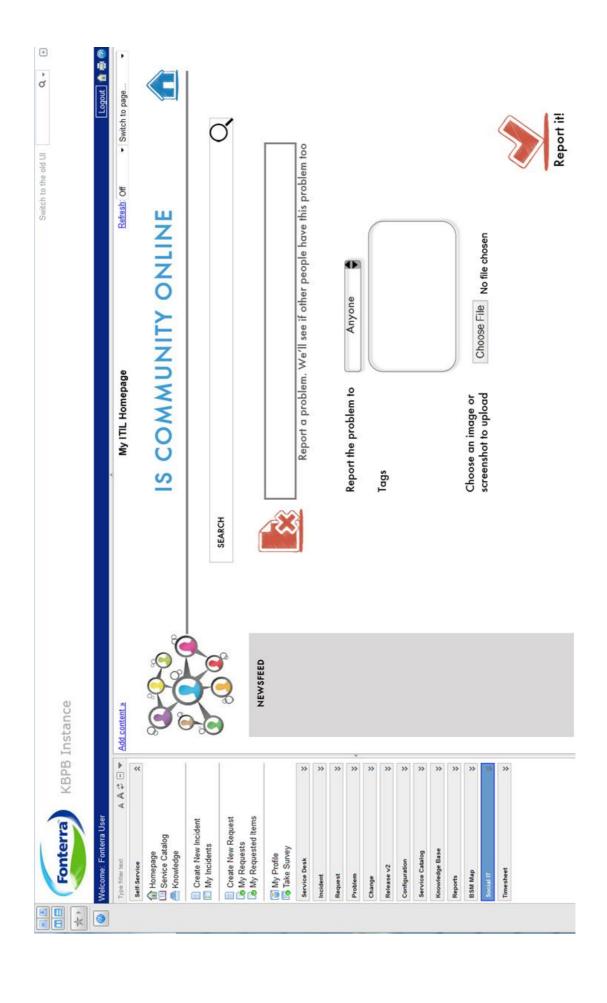
The Ask a Question bar searches for a previously asked question or similar question in the knowledge base as you type it up. If you are not satisfied with the results of the search you are able to proceed completing the rest of the form and submitting your question.



The dropdown menu for 'Post a question to' allows you to select the audience that you are addressing the question to. The options are – Anyone, Specialist or Helpdesk.

The hashtags area allows you to add metadata to their question which becomes part of the keywords for the search related to their question.

The 'Choose File' button allows the user to upload a screenshot or image related to their question that may assist with responses or to provide background for the question.



The above figure shows the view of the page when the 'Report IT' button is clicked. The page contains the following:

- Report a Problem bar
- 'Report the problem to' drop down menu
- Hashtags
- Upload image button
- 'Report it button

The 'Report a Problem' bar searches for previously reported problems or similar problems in the knowledge base as you type it up. If you are not satisfied with the results of the search you are able to proceed completing the rest of the form and submitting your problem.



Report a problem. We'll see if other people have this problem too

The dropdown menu for 'Report a problem to' allows you to select the audience that you are addressing the problem to. The options are – Anyone, Specialist or Helpdesk.

The hashtags area allows you to add metadata to their reported problem which becomes part of the keywords for the search related to their reported problem.

The 'Choose File' button allows the user to upload a screenshot or image related to their problem that may assist with responses or to provide background for the problem.

HASHTAGS (Present on both the 'Ask IT' and' Report IT' page)

"I generally find it difficult to select the right option through BSC online and am never sure whether I have selected the right option."

When developing IS Community Online a new approach was taken to help sort the incoming questions or problems. Instead of the traditional way of categorizing your question or problem within into one of the listed options, hashtags will be used. This decision was made after observing the current Fonterra BSc Online request system where users are often confused and incorrectly categorize their requests which leads to a delay in their matter being completed or resolved and also additional work for support staff to correct the error and redirect. In an environment such as IS Community Online where real time activity is important, it is crucial that errors such as this are avoided so it doesn't hinder the response. Hashtags also allow for users to put their questions or problems into multiple categories and allow it to get noticed by the appropriate audience.





4

A A \$ = ~ Add content » Create New Incident Homepage Knowledge Self-Service



IS COMMUNITY ONLINE My ITIL Homepage



· Switch to page...

Refresh: Off

4

ď

Switch to the old UI



Be a part of a community! Feel free to join one or all



ADVANCED SYSTEM USER GROUPS

Create New Request

My Requests

My Requested Items

My Profile
Take Survey

Service Desk

Incident

My Incidents

NEWSFEED

Configuration Release v2 Problem Change Request

Knowledge Base Service Catalog Reports

Timesheet

BSM Map

0

The above figure shows the view of the page when the 'Join IT' button is clicked. The page contains the following:

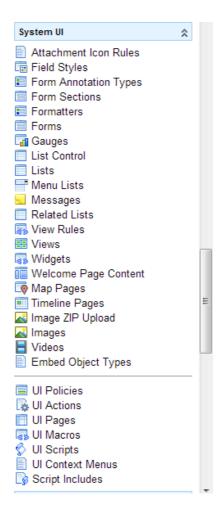
- 'Browse Experts' button
- List of communities that users are able to join

The function of the 'Browse Experts' button is elaborated in the Future Work section.

Each blue button on the page leads to a community page which users can subscribe or join. Community members can receive updates, discuss or share information within each page.

10.3.2 IMPLEMENTATION

The following screen shot shows some the out of the box features that ServiceNow. These features can be used in conjunction with widgets and gadgets to tailor and customize the pages. The following pages also show some examples how elements are further customized to meet the needs of IS Community Online. Some of the customization methods were learnt from ServiceNow Guru [11].



Global Search

The global Search bar at the top of the homepage utilizes and further customizes the 'Knowledge Search' widget and helps users find solution in the knowledge base. A UI page is firstly created in order to display the contents of the widget. And then the following needs to be inserted to add the knowledge search widget

This UI page then needs to be referenced into the 'Widget' register to allow an administrator such as me to add it to the page.

One of the things that I noticed is that for custom widgets on ServiceNow there is a particular pattern that needs to be followed to get the functionality right and if the prefix 'render_gadget_' is added for new UI pages, it works.

Custom Widgets

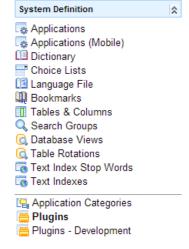
Custom widgets are also created like this. The 'sections' functions needs to be changed to add the label of the widget and the name of the UI page (not including the prefix 'render gadget '.

```
function getEditLink() {
    return "sys_ui_page.do?sysparm_query=name=render_gadget_" + renderer.getPreferences().get("t
ype");
```

Newsfeed

The implementation of the newsfeed utilizes the LiveFeed plugin on ServiceNow which needs to be activated by navigating to the System Definition and to Plugins.

Once this is done a UI page needed to be created containing the following and then the page needs to be added to the custom widget.



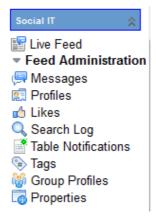
Name: render_gadget_livefeed HTML:

```
< <a href="feedframe" src="live_feed_small.do" scrolling="yes" frameborder="0" style="height:320" px; width:100%"></iframe>
```

Though the widget was successfully created, the LiveFeed did not work as the other plugins that also need to be activated for this to function were not yet given security approval.

Social IT

The in-built features of Social IT that ServiceNow provide makes it easier to deliver a better IS Community Online tool.



EARLY STAGE DESIGN TESTING QUESTIONS AND RESULTS

The purpose of this testing is to get feedback on my design direction from potential users early in the design lifecycle.

In the very early stages of creating a new design, our priority is not generally finding usability problems as such, but instead ensuring that the satisfaction is met regarding requirements, users' preferences for alternative design approaches, or the overall viability of a proposed design.

The following contains a quick overview of testing carried out to obtain the feedback during my design process. The testing was carried out with 4 members within Fonterra IS.

Questions

- Please give me your initial impressions about the layout of this page and what you think of the colors, graphics, photos, etc.
- Without clicking on anything yet, please describe the options you see on the home page and what you think they do. Feel free to move around the page, but again I'll ask you not to click on anything right now
- Where can we best position the newsfeed and Help buttons within the application to ensure their utilization?
- What is the optimal level of personalization and customization that you would actually use?
- What do you think is the purpose of this site?
- What elements should support commenting and reviewing and what are their attributes?
- Please attempt to ask the following question
- Are there materials you would like to see added to IS Community Online? If so, please state.

Limitations to usability testing

 It would have been beneficial to conduct the testing with members outside of IS as well but it was decided that this would be done at a later stage when IS Community Online was more functional after a few key features were added.

11.FUTURE WORK AND POSSIBLE IMPROVEMENTS

As the ServiceNow project is over a 2 year period and other components of the tool e.g. change requests which are dealt with other sectors of Fonterra IS, will still be in production at the beginning of next year and the entire tool would not be rolled out till 2014 and therefore allows time for the development and integration of more features on IS Community Online.

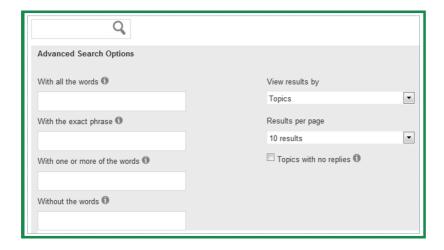
Mobile Accessibility – It would be beneficial for the users for IS Community Online to be available on their company mobile devices. It provides users access to the service regardless whether they are at their desk or not and therefore encouraging users to participate and elevating the potential of IS Community Online. The accessibility and convenience in communicating with your company workforce allows getting helpful and important information to other colleagues that or else might be hard to

communicate with after hours. It offers a constant avenue for communication and this is especially necessary for global users.

Features to be added

User Profile – the current implementation of IS Community Online allows users to specify their details and areas of their expertise but does not provide any statistics of their activity on IS Community Online or easy access to previously asked questions or bookmark particular questions, problems or discussions. User profiles could also be build up by giving statuses to users that would promote or recognize their activity for example, 'Top Contributor'.

Search – currently there is no structured filtered search available as shown below. This is a high priority feature that requires to be implemented to help users find what they need. Though there is a general search feature available, a feature such as this essential to help users find something specific. Other statistics to entries could also be added in the future such as the number of views received for a particular question, problem or discussion thread.



It would also be beneficial to be able to extend the search functionality from the current knowledge base of IS Community Online to also search content from IS Help Online, linked documentation libraries and so forth and display relevant search results. This would provide a better user experience.

Newsfeed – Currently present as a placeholder on the IS Community Online page but is not yet functional. This newsfeed should display the activity on the site in real time to allow users to see how others in their network are commenting, discussing or reporting. The benefit of such a newsfeed is that users opt-in to content of interest and the newsfeed should also have filtering mechanisms to allow users to control the flow of information that they receive.

Join IT page



- Browse Experts This feature should allow users to find others on the network with a particular area of expertise.
- An area promoting the most popular communities or most popular topics should also be displayed on the page.

Live Chat — ServiceNow already provides a live chat feature which needs to be integrated into IS Community Online which would allow users real time support. This could not be currently done due to the environment it is in.

Another improvement that needs to be made is in the 'Ask IT' page where there should be capability for a user to post a question and address it to a particular specialist or a Specialist group. Currently it only allows users to post it Specialists in general.

Further testing also needs to be done to ensure that IS Community Online meets the expectations and requirements of a wide range of users within Fonterra.

11.1 PROBLEMS FACED

Some of the problems that I faced in during the course of the year and which had an impact on the outcome of my project are outlined below.

Access into the Fonterra Network

As this project was unpaid, I did not have an official contract with Fonterra, which made it difficult to get access to the Fonterra network, as I was not on the payroll. Even though I was able to get access to an account at a later stage, it would lock me out on a weekly basis due to some unknown issue that the Help Desk and HR were not able to resolve. Due to this I was not provided a Fonterra email account, which made communication with employees difficult, as email and IM are the primary modes of internal communication. In order to get around this issue, I provided my personal details to colleagues in person to ensure that they were comfortable communicating with me via an external email address (University email) or my cell phone.

Pure Play Social product

At the end of my research phase it was decided that I would be using a pure play social product (Newsgator, Chatter or Yammer) as the platform for IS Community Online. As the next step of the project wasn't taken in the direction expected due to reasons that were unforeseen it did have an impact on the amount of work that could be completed within the deadline of the BTech 451 Project.

As the priorities of my colleagues were different to that of mine in relation to the project, this also meant that I wasn't able to steer both the decisions made and the project at the pace that I would have liked.

Access to ServiceNow

The entire ServiceNow project was one and a half months behind schedule from its initial plan, which meant that I was not able to access certain areas of the system due to security reasons. The Fonterra instance of ServiceNow was also taken down by the vendor at one point halting development for 4 days as they were not aware that I was using the test environment. Certain features of the IS Community Online was not able to be implemented due to some of these technical issues.

Introduction of new SaaS tool

As I was one of the first people in the company using ServiceNow, there weren't other colleagues that could advise me both from a technical and non technical aspect. Attempts were made to get in touch with a technical advisor at ServiceNow but the workshop they offered was after the deadline of the project. I had to spend a lot of time reading through a lot of ServiceNow online documentation and read through blogs such as ServiceNow Guru so that I could implement what I have done on IS Community Online till date.

11.2 ACHIEVEMENTS

I have achieved numerous goals from both an academic and personal aspect by doing this yearlong project.

- Research Skills researching a solution for a problem in an industry environment is unlike the research done at University and the skills gained from the research aspect of the BTech 451 project have been invaluable. It has taught me how to do a thorough investigation of the stakeholders and understand the requirements and how to tailor a solution to their needs.
- Improve Communication and Time Management Skills I have learned to communicate my ideas to individuals from different backgrounds. Through the course of my project I have had to communicate with colleagues who come from a technical or non-technical background and it has been important for me to be able to convey my ideas through to them. I have learnt to take different approaches while explaining concepts to them depending on their background and their current role. I have also improved my presentations skills through the B Tech presentations where the aim was to communicate an overview of your project to the audience within a given time frame.

I have also learned to manage my time more efficiently as the work hours for the project were during the week at a 9 to 5 job along with the university workload, it was important that a balance was achieved and that work and time was prioritized.

 In depth understanding of the services provided by Fonterra IS to the wider Fonterra – the research aspect of the project gave me a good understanding of the services expected by Fonterra IS to the wider Fonterra

- Improve Design Skills I had the opportunity to improve my user interface design skills by being able to develop a tool to a particular set of requirements and for a wide range of users. Allowing others to critically evaluate my design and using the feedback to further improve my design
- One year Industry experience I have understood that completing a university project is a lot different to doing a project in the industry. Mainly because in the work force there are many factors that influence your project, and a lot that you cannot predict. In the corporate environment to make a decisions take a lot of time and there are a lot processes to go through, for example business cases. You are dependent on a lot of people and you are part of a much bigger team. I needed a lot of people on board and on the same page to be able to take every step. It was a huge learning experience.

12.CONCLUSION

In conclusion, from the BTech project I have introduced an online IT Help tool – IS Community Online within Fonterra. I have completed research on the benefits that social networking and collaboration can provide to Fonterra and how an online IT Help Tool can be delivered in conjunction to this. I have also evaluation Enterprise Social Software that re able to provide a solution to their social collaboration needs. Further research on ServiceNow which was the final chosen platform to implement IS Community Online has also been presented along with what I have implemented.

This project has helped me achieved goals and gained skills that are of use on both a personal and academic level. It has helped me apply knowledge to practice and look at a set of requirements and develop a solution that caters to this and is also tailored to the environment through thorough investigation.

As it was not possible to completely set up IS Community Online within the time frame of the project further work will be conducted to make this project successful.

13.ACKNOWLEDGEMENTS

I would like to thank everyone who were involved in this project.

Firstly a big thanks to the BTech project coordinator Dr. S Manoharan, for giving me this opportunity.

I would also like to thank my academic mentor Dr. Ulrich Speidel for his ongoing support and offering me advice and help through the course of this project.

I would also like to thank my industrial mentor Erin McKernan for sponsoring this project and the encouragement she has given me throughout the year.

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